

Midwest Ag-Focus Climate Outlook

Main Points

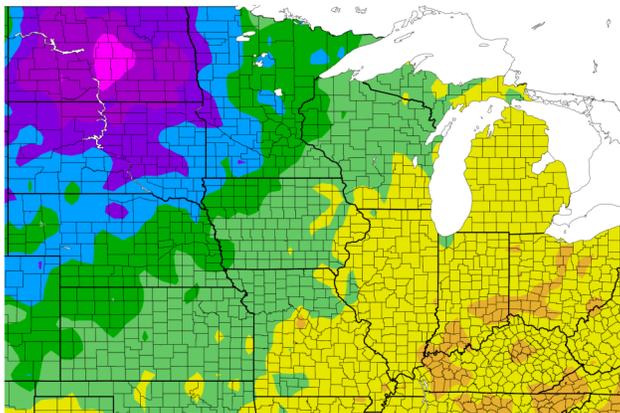


- ◆ Drought has been mostly eliminated in the eastern Corn Belt but continues in western areas, though there has been some improvement there.
- ◆ Soils are getting wetter towards the east. Frozen soils have kept surfaces wet but there is limited deeper soil moisture across the north despite heavy precipitation/snow.
- ◆ April has slightly increased chances warmer-than-average temperatures in eastern areas. The Great Lakes region is leaning towards greater-than-normal precipitation
- ◆ Spring planting may face an increasing risk of delays in eastern areas.
- ◆ Cooler March temperatures may have slowed perennial development, but there is still some freeze risk.



Current Conditions

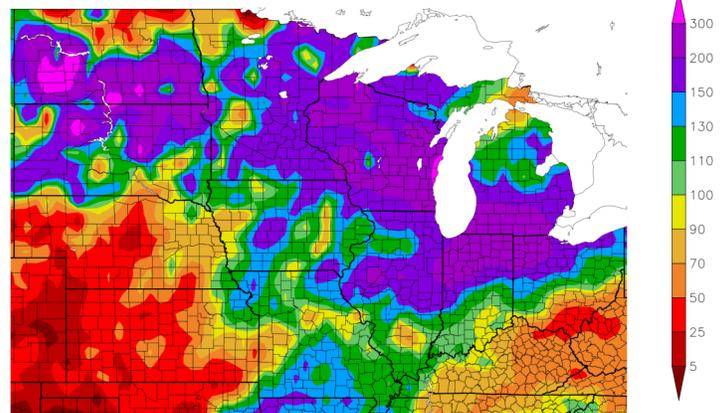
Departure from Normal Temperature (F)
2/22/2023 – 3/23/2023



Generated 3/24/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Percent of Normal Precipitation (%)
2/22/2023 – 3/23/2023



Generated 3/24/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

A stark contrast in spring conditions continues across the North Central US. After a dry fall, warmer and wetter conditions have dominated the eastern Corn Belt through the winter, helping eliminate precipitation deficits. Northern areas have also been wetter than average but are dominated by a heavy snowpack. The central Plains and central Midwest states have received precipitation but still have dry soils and ongoing drought in some areas. Mostly warmer-than-average conditions covered the east over the last 30 days, running up to 6°F above average. At 6-12°F below average, the northern Plains have been cool due to a persistent jet stream pattern and snow on the surface. Most of the north has received more precipitation at 150-300% of average while the Ohio Valley and central Plains have been drier – 50% of average or less in parts of these areas.

Images from High Plains Regional Climate Center (HPRCC), Online Data Services: [ACIS Climate Maps](https://www.climatehubs.usda.gov/hubs/midwest). Generated: 3/24/2023.

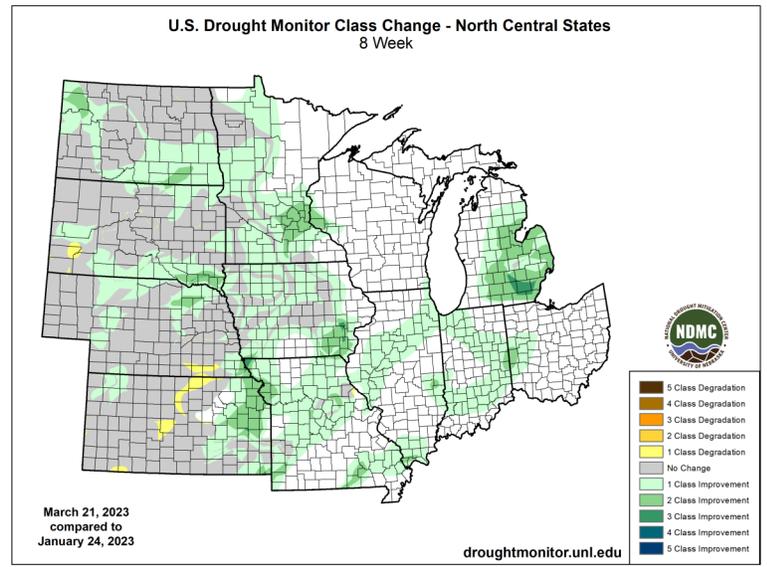
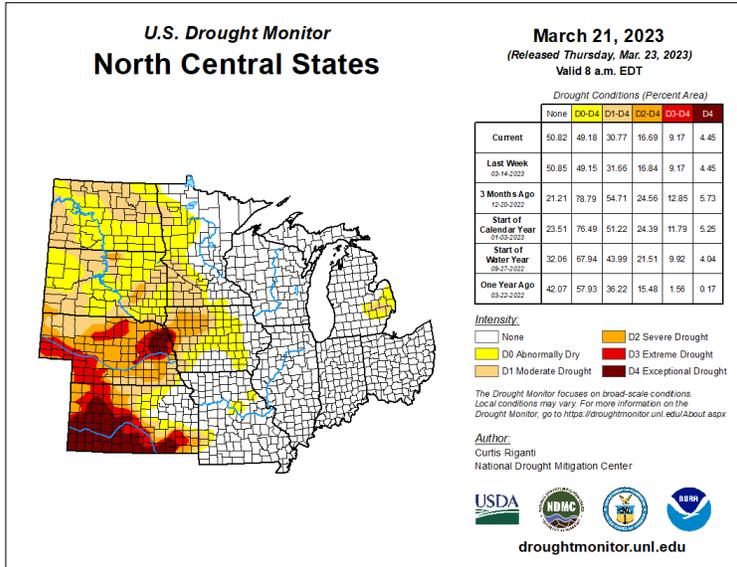
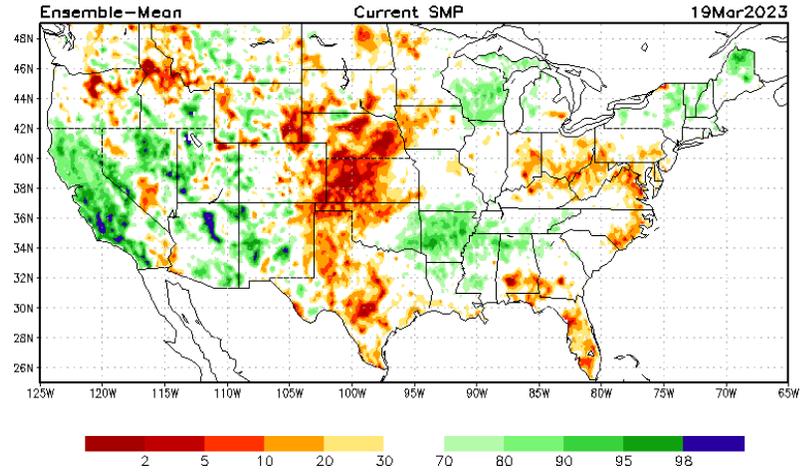


Impacts

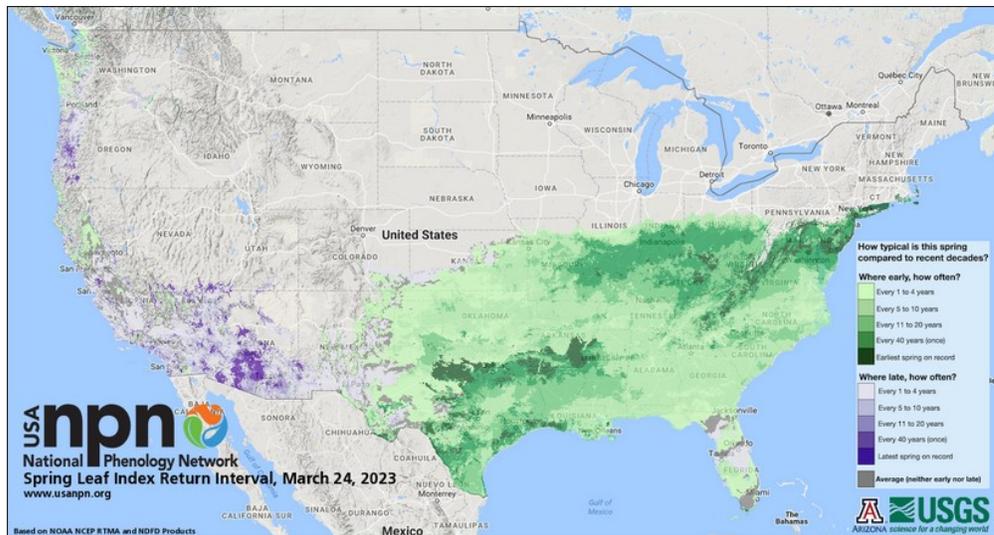
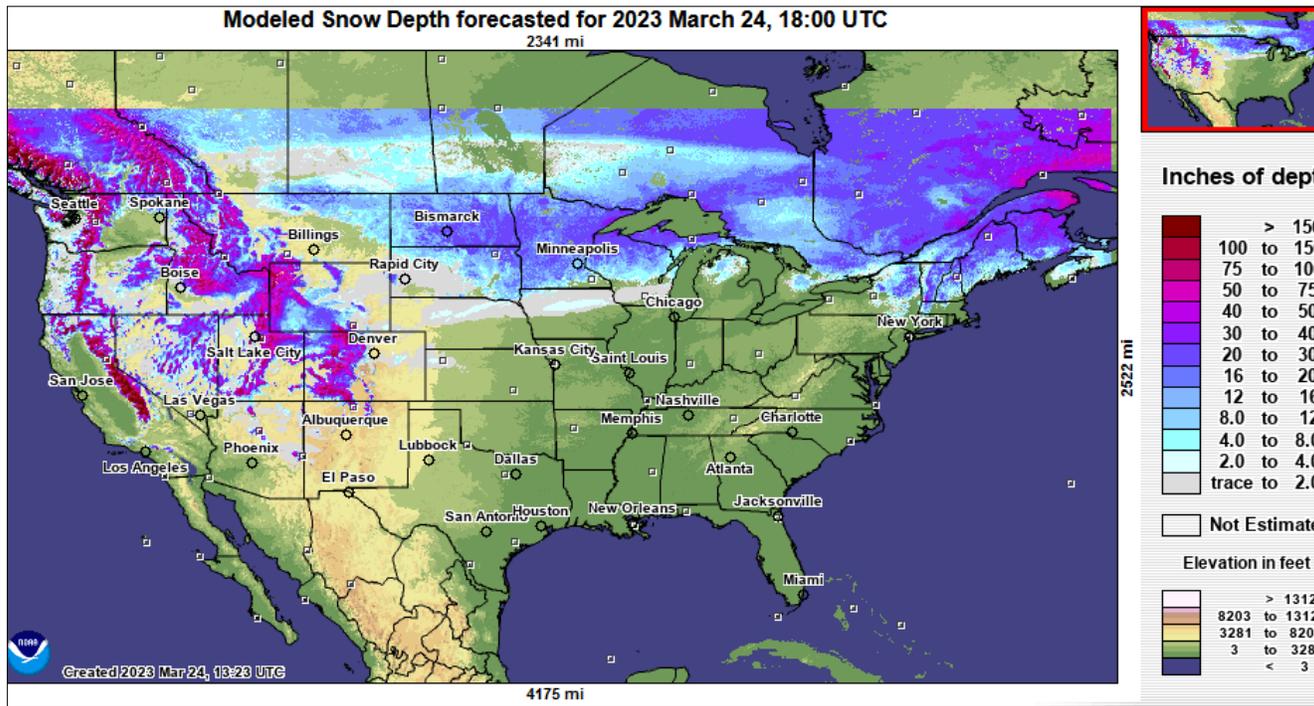
Drought has largely been eliminated in the eastern Corn Belt and has swung to wet soils which are increasing the risk of delayed spring planting. Other eastern areas are wetter, though not excessively wet at this point. The snowpack in the north has accumulated to a significant level (setting some local records for late season depth) leading to NOAA/NWS concerns on potential flooding in the major rivers and locally when the snow melts (especially if accompanied by additional rains). Locally, delays in planting are more possible in the northern Midwest due to snowpack. The overall impact is still difficult to assess because soils were dry going into the winter. Near-surface soils have become wetter, but deeper soil moisture profiles are likely still somewhat dry (though there is substantial uncertainty). If so, soils may dry more quickly after snow melt. Soils in the central Plains are quite dry given existing evidence and precipitation deficits.

The warmth across the east has kept soils thawed and pushed chilling hour accumulation for tree fruits and pushed other perennials closer to dormancy break. Dormancy break may occur before the last freeze in many places, opening crops up to freeze damage. The recent March cold has caused freezing temperatures well into the southeast US. The cold has also slowed perennial development. So far, freeze damage seems to be more of a problem in the south outside the Midwest; sensitive vegetation in the Midwest had not experienced widespread damage during the recent cold weather.

Soils are still generally frozen north of I-80 and west of the Great Lakes. Four-inch soil temperatures are in the 40s in southern parts of the Corn Belt.



Maps Generated by the [National Drought Mitigation Center](#) and the [Short-term Prediction Research and Transition Center](#).



Maps Generated by the [National Operational Hydrologic Remote Sensing Center](#) and the [National Phenology Network](#)

Outlook



The interest in outlooks becomes more acute as we reach the start of planting season in southern Corn Belt areas and the beginning of field work and planning in other areas. La Niña is officially declared over though final atmospheric impacts are still fading. The potential shift to El Niño by later summer or into fall will continue to be watched.

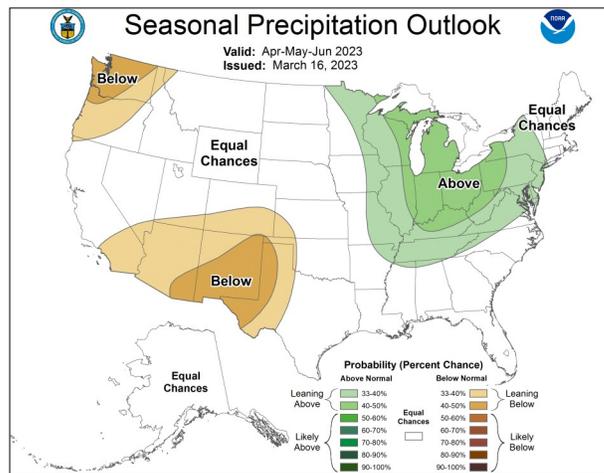
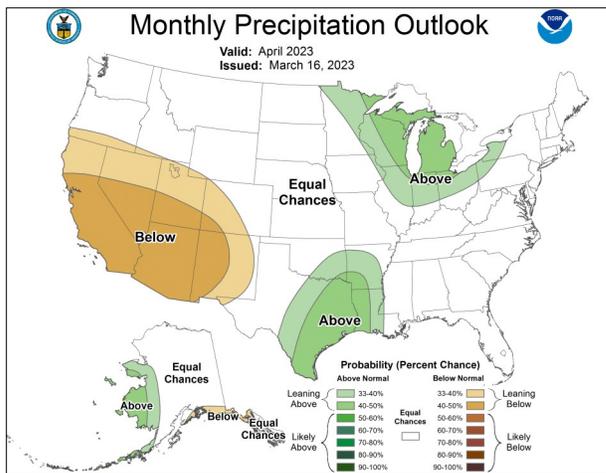
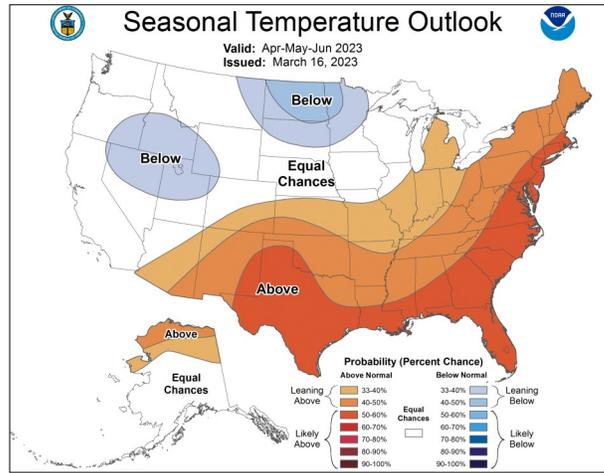
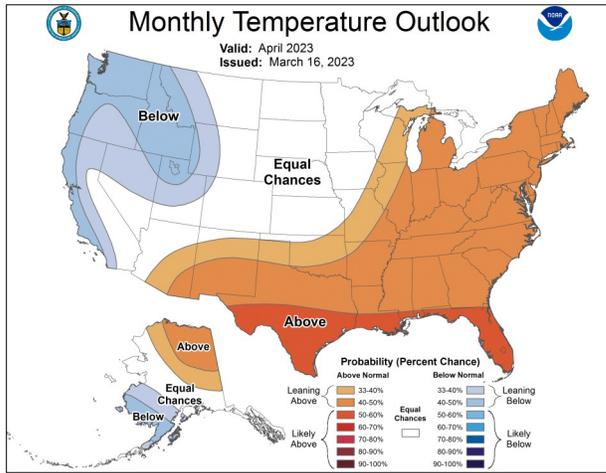
Cooler-than-average conditions are more likely to continue in the Plains and northern areas according the most recent 6-10 and 8-14 day outlooks (not pictured; see www.cpc.ncep.noaa.gov).

April outlooks don't have a large amount to say for the region. Warmer conditions are slightly more likely across the eastern Corn Belt. Increased precipitation is slightly more likely around the Great Lakes. If it occurs, this increased precipitation would increase chances of delayed planting from wet soils, while warmer conditions would warm soils, increase evaporation, and facilitate drying soils. Western areas have no strong indications in the outlooks. The snow pack in the north will slow the warm-up and field progress into early or mid-April.



The 90-day outlook has a similar temperature prediction with an added chance of cooler conditions in the northern Plains. The eastern arm of slightly increased chances of precipitation extends south into the Ohio Valley. The same risk situation exists across the east with potential wetness, though a chance of warmth may help counter the probability of increased precipitation. The projected possibly cooler area in the Plains is a combination of computer model projections, spring trends over recent years, and potential coolness from ongoing snow cover and wetness. The outlook combined with snow cover may lead to some delayed field work opportunities there.

Delayed spring planting is an increasing issue across the east given recent rains, wetter soils, and wetter outlooks. Soils in the north will be a little slow to warm with the colder March and existing snow cover and frost depths. Major issues at this time are not expected. Thawing of soils needs to occur to allow better soil moisture recovery. Some soil dryness is expected to continue in this area, though it will be eased somewhat with typical spring precipitation.



Outlooks provided by the [Climate Prediction Center](#).

Partners and Contributors

- [United States Department of Agriculture \(USDA\)](#)
- [National Oceanic and Atmospheric Administration \(NOAA\)](#)
- [Climate Prediction Center \(CPC\)](#)
- [National Weather Service \(NWS\)](#)
- [National Center for Environmental Information \(NCEI\)](#)

- [National Drought Mitigation Center \(NDMC\)](#)
- [National Integrated Drought Information System \(NIDIS\)](#)
- [Midwestern Regional Climate Center \(MRCC\)](#)
- [Midwest State Climatologists](#)
- [High Plains Regional Climate Center \(HPRCC\)](#)



For More Information

Laurie Nowatzke, Coordinator
USDA Midwest Climate Hub
1015 N University Blvd., Ames, IA 50011
515-294-0213
laurie.nowatzke@usda.gov



For more information, please visit:
<https://www.climatehubs.usda.gov/hubs/midwest>